Remarks

Further and favorable reconsideration is respectfully requested in view of the foregoing amendments and following remarks.

Thus, claim 1 has been amended to recite that the heat treatment is performed at 100 to 160°C for 1 second to 60 minutes before the treatment with transglutaminase, based on the disclosure at page 11, lines 18-22 of the specification.

Claims 2-5 have been cancelled.

Claim 6 has been rewritten in independent form, by incorporating the subject matter of claim 5 from which it depends.

Claims 7-8 have been cancelled.

The patentability of the presently claimed invention after entry of the foregoing amendments, over the disclosures of the references relied upon by the Examiner in rejecting the claims, will be apparent upon consideration of the following remarks.

Thus, the rejection of claims 1-8 under 35 U.S.C. §103(a) as being unpatentable over JP 06-209716 in view of Schaefer et al. (US '284) is respectfully traversed.

Initially, Applicants take the position that, in view of the foregoing amendments, the presently claimed invention cannot be presumed to be obvious in view of the references. That is, the references do not suggest either a process for producing a soybean protein comprising treating a soybean protein solution or soybean protein slurry with transglutaminase, wherein a heat treatment is performed at 100 to 160°C for 1 second to 60 minutes before the treatment with transglutaminase (claim 1), or a process for producing a soybean protein comprising treating a soybean protein solution or soybean protein slurry with transglutaminase, wherein a heat treatment is performed at 100 to 200°C for 20 seconds to 80 seconds after the treatment with transglutaminase, and the transglutaminase acts to such an extent that the number of Glu-Lys bonds existing in 1 g of the soybean protein is 10^{10} to 10^{25} after the transglutaminase reaction (claim 6).

Furthermore, the present invention results in an unexpectedly superior effect, in providing a soybean protein having not only improved gelation ability, but also improved emulsification ability (see page 5, lines 5-8 and page 7, lines 19-22 of the specification), as particularly demonstrated in Examples 1-4 in the specification.

JP '716 discloses a method for producing a cross-linked protein from a mixture of soybean protein and casein in which a solution containing soybean protein and casein is treated with transglutaminase. In this reference, a desired gelation ability of cross-linked protein is obtained by mixing the soybean protein with the casein. JP '716 does not disclose that the desired gelation ability is obtained from the soybean protein without casein. In addition, the reference neither teaches nor suggests improvement of emulsification ability of the cross-linked protein.

Schaefer et al. disclose a method for producing a cross-linked protein of vegetable origin. However, this reference neither teaches nor suggests improvement of gelation ability and emulsification ability of the cross-linked protein.

Even if the references were combined, a skilled person in the art could not obtain the presently claimed process as recited in claims 1 and 6 for producing a soybean protein having improved gelation ability and emulsification ability.

For these reasons, Applicants take the position that the presently claimed invention is clearly patentable over the applied references.

Therefore, in view of the foregoing amendments and remarks, it is submitted that the ground of rejection set forth by the Examiner has been overcome, and that the application is in condition for allowance. Such allowance is solicited.

Respectfully submitted,

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